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ECONOMIC STAGES IN THE GROWTH OF ROCHESTER

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The building of a city such as Rochester is much more than a complex engineering feat or large-scale construction job. It is a long historic process in which successive patterns or trends are partially elaborated, only to be altered or abandoned when new possibilities prompt a redirection of energies. The transition from one economic stage to the next in Rochester's development—characterized in every case by a large-scale demolition or reconstruction of the old town—has seldom been a conscious or purposeful shift. Rarely has a clear-cut plan or blueprint been formulated, but new leadership as well as the changing circumstances in the country at large have produced at least five distinctive epochs in the city's economic activity.

Thus the founders of Rochester, who laid out the first plan for a comfortable village in 1812, found themselves within a decade busy raising the more ambitious framework of a bustling *market town*. The Erie Canal brought a sudden commercial stimulus, and Rochester became in the twenties America's first *boom town*. A heated debate ensued between those who wished to plan for the future city and those who preferred to cling to the old village traditions. But the commercial revolution brought to Rochester by the canal was not to be side-tracked, and within three decades of its settlement Rochester had become the *Flour City*, center of the chief northern grain producing area of the day.

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The Erie Canal, and the railroads which soon paralleled its course, not only joined Rochester with the markets of the East but opened the vast resources of the Old Northwest. The Flour City soon found itself one of a scattered family of thriving cities joined by the nation's expanding transport lines. Greater river and lake facilities quickly enabled several of Rochester's western rivals to speed far ahead, but the water power of the Genesee nurtured an increasing variety of industries, while the flood of immigrants heading westward kept the shops of the city crowded with skilled artisans. The Flour City was beginning to give way to the *Flower City* even before the Civil War. After that struggle the nursery industry quickly became Rochester's pride and glory, though the old mills still commanded the largest capital investments, while shoe and clothing shops and diverse machine tool factories provided employment to the greatest number of workmen.

Although the lack of an abundant coal supply served as an effective check until the late eighties, slow but continuous growth was experienced along Rochester's lengthening Main Street. Ingenious and obscure inventors were developing the instruments whose successful manufacture and promotion in succeeding decades provided the secure foundation for the modern *City of Many Industries*. The gradual achievement of responsible labor organizations, favorable working conditions, skilled craftsmanship, and enterprising leadership in promotion and management secured Rochester an enviable position in the industrial world of the early twentieth century.

A more detailed examination of these successive economic stages, noting particularly the forces which prompted change and the factors which hastened or retarded the solution of resulting problems, will contribute to an understanding not alone of Rochester's history but of the problems and prospects of the modern city.

Founding the Genesee Market Town

The site of Rochester, carefully designed by nature for a milling and trading center, stood neglected during the long centuries of Indian occupation. A heavy forest covered the area, sheltering a populous community of wild life. Hunting and fishing parties made occasional visits, but Indian traders and their first white companions saw the

successive Genesee falls, the outcropping rock ledges and intervening marshes, as bothersome obstacles and generally skirted the area. It was not until the summer of 1788, when Oliver Phelps was negotiating with the Indians for the purchase of the vast tract between Seneca Lake and the Genesee River, that the first settlement on the site of Rochester was proposed. The Indians desired mills both to saw lumber for improved houses and to relieve them of the tedious labor of grinding corn meal by hand. Oliver Phelps agreed to provide mills at the Genesee Falls for their use in return for an additional grant of a generous mill lot west of the river—practically the whole western half of present Monroe County.

Ebenezer Allan was given the job of erecting the mills, receiving as a reward for his labor one hundred acres at the falls for a mill seat. Allan, a colorful pioneer trader who had ventured into the Indian country ahead of settlement, welcomed the prospect of becoming the chief miller of Western New York. The next year found him busily engaged in chopping out a small clearing on the west bank between present Broad and Main Streets. A crude sawmill and a more substantial gristmill were raised that year, and in 1790 Allan moved in with his sizeable family as the first resident on the site of Rochester.

Settlers were trooping into the Genesee Country over the Mohawk trail and up the Susquehanna, but their chief settlements were around Geneva, Canandaigua and Bath, and few customers visited Allan's mills. Even the Senecas, preoccupied with Indian hostilities in the Ohio Valley, were seldom to be seen at the Genesee Falls. The Canadian control of shipping on Lake Ontario checked possible developments at Rochester, and when the forts at Oswego and Niagara were finally surrendered in 1796 the products of the area continued to flow south and east to market. Allan had already disposed of the milling venture, and his lonely successors permitted the buildings to fall into decay. Occasional travelers usually found most of the half-dozen settlers on the lower Genesee lazily fishing in the gorge below the falls. Finally, by 1805, fire and flood had destroyed the last vestiges of Allan's mills, and a thick growth of underbrush began to spread over the five-acre clearing that marked the site of Rochester.

Fortunately, prospects on the lower Genesee suddenly brightened in 1808 when the Embargo and Non-Intercourse Acts glutted the eastern market and forced the trade of the interior to seek a new outlet

down the Genesee and over the lake to Canada. Enterprising merchants established Tryon Town at the head of Irondequoit Bay, Charlotte at the mouth of the river, and Fall Town just below the lower Genesee Falls. A sufficient number of settlers located in the area to recommend the construction of a bridge over the river, completed in 1812. It was in 1811 that Colonel Rochester, who with two Maryland associates had purchased Allan's 100-acre tract several years before, came down on horseback to survey the plot and lay out a small village. Enos Stone, busy clearing a farm and erecting a mill on the east bank, was engaged as land agent, and quarter-acre lots were offered at prices ranging from \$30 up to \$200. Down payments of \$5 would secure a lot, provided a house or shop, twenty by thirty feet in size was erected within the year. By July 4, 1812, the first permanent settler in Rochesterville, Hamlet Scrantom, had moved into a log cabin on the site now occupied by the Powers Building.

Rochester was one of the last major settlements in Western New York, and its growth during the first two years was further delayed by the hazards of war. But the fully-exposed settlements at Charlotte and Fall Town were more seriously injured by the danger of attack, losing much of their trade and many of their residents to Rochester. Meanwhile the increasing number of settlers up the valley were eager, on the return of peace in 1815, to float lumber and potash down the Genesee for export to Canada. Sacks of corn and wheat as well as great stacks of handcut barrel staves found a place on the rafts, and the settlers at Rochester were kept busy sawing the lumber, grinding the grain, and hauling the products down to the docks at Fall Town and Charlotte, or to Carthage a new port on the east bank. Numerous stores were opened and stocked with merchandise imported from the East, and here the valley folk found supplies to load their empty wagons or rafts for the return journey.

Rochester was successfully established as the leading market town of Western New York by 1820. As many as eight well-built Durham boats were poled up and down the river above the falls in successive commercial trips that year. The first steamboat on the Great Lakes had visited that mouth of the Genesee in 1817, a few months after the village of Rochesterville was officially incorporated. By the end of the decade some sixty sailing craft and two steamers were operating on the lake. The Genesee flour exports amounted to 67,467 barrels in

1820, and the total value of all exports was estimated at \$375,000—a sizeable trade for a settlement of barely two thousand inhabitants including the outlying ports.

Signs of internal growth and outward expansion were already apparent before the end of the first decade of permanent settlement. Village lots were laid out on the old Stone farm at the east end of the bridge, and other ambitious developments were plotted at the lower falls and elsewhere in the vicinity. Average lot values in the village mounted to \$600, while the choice lot at the Four Corners where the Scrantom cabin had recently stood was already valued at \$10,000. Four mill races were opened, and a half-dozen grist mills and double that number of sawmills were in operation by 1822. A tannery, a brick yard, a paper mill, a cotton factory, a weekly newspaper, more than a score of stores, and the numerous shops of varied artisans provided a bustling activity. The 100 houses of 1816 were increased to 250 by the end of the decade, and two years later Rochester was able to match the 400-odd houses of either Canandaigua or Buffalo, the earlier leaders of the area. Already the Genesee market town's activity greatly exceeded the trade of these neighboring rivals, each denied easy access to a cheap water route to market.

The Booming Canal Town: 1822-1834

Rochester's prospects were again suddenly transformed by the arrival of the Erie Canal. Exports to Canada continued to increase in the early twenties, but Montreal prices were tumbling, and only the promise of a rich new market in New York City averted a slump in the Genesee mill town's activity. Shipments over the canal east from Rochester started in 1823, and the full effect of the eastern market began to appear the next year, though the canal was not opened west to Buffalo until late in 1825. Transport costs to Albany were cut from \$60 per ton by wagon to a maximum of \$10 by boat. Products that had formerly been considered unmarketable, due to bulk or weight, now found a profitable outlet. Flour shipments from Rochester mounted to 202,000 barrels by 1826, and the next year the town's total exports by canal were valued at \$1,200,000, two-thirds of it in flour, while merchandise valued at \$1,020,000 was brought back to fill the shelves of Rochester stores. Not only was a favorable credit

balance created in the East, but producers up the valley and on the expanding frontier found a ready sale for their grain and other produce in Rochester where the merchants were only too eager to supply them with the latest articles of farm and household use.

The development of its credit facilities had long been a major concern of the growing community. Application for a bank charter had been made to the legislature almost annually after 1815, but it was not until 1824 that the charter was secured. The Bank of Ontario in Canandaigua and the Bank of Utica, as well as resources further east, supplied credit during the interim, but the community welcomed with enthusiasm the establishment of the Bank of Rochester in 1824, oversubscribing its capital stock of \$250,000 fivefold. Handsome profits were returned to the fortunate stockholders, but the credit needs of the community remained unsatisfied, and the chartering of a second bank in 1829 failed to relieve the situation which the rapid growth of the town was creating.

The commercial and industrial activities of Rochester were increasing at an unprecedented rate in the mid-twenties. Great rafts and lumber cribs, brought down the Genesee each spring, supplied work for a score of sawmills and material for a half-dozen boat yards. Rochester became the chief producer of canal boats, and two or three small schooners were constructed in the gorge each year. By 1827 the town's exporters had acquired control over the six leading packet and freight lines operating a total of 160 boats on the canal. An average of five freight boats loaded at Rochester each day of canal operation in 1825, and the number increased threefold during the decade. Rochester stood second only to Albany in the amount of canal tolls collected annually, and unlike Albany the mill town generally added something to the value of each article shipped from its canal basins.

The leading industries were, like the boat yards, engaged in processing the products of the valley for export eastward. Chief among these were the flour mills, which increased to seven by 1827 and to eighteen by 1834. Several distilleries likewise helped to convert the grain of the Genesee into more easily marketable products, while numerous asheries and coopershops did the same with forest products. Three tanneries, several harness and shoe shops, four brick yards, two woolen mills, and a flaxseed oil mill turned area products into articles of demand in the thriving market town.

Another class of industries converted easily imported raw materials into articles badly needed locally or on the western frontier. Early blacksmith shops grew into foundries and tool shops as soon as the canal provided a cheap source of iron ore. One iron foundry attained considerable size and turned out millstones, ploughs, stoves, scythes, axes, and castings of various sorts, while a nail factory was described by an English visitor in 1828 as equipped to cut out its product wholesale "by machine as in Birmingham". A carpet factory and a second cotton mill as well as an increasing number of tailor shops served other community needs.

Rochester paused to take stock of its assets in 1827 when an enterprising local publisher brought out the town's first *Directory*. Much pleasure was expressed over the unusual "hydraulic resources" of the successive Genesee falls. It was estimated that even during dry seasons Rochester had 12,875 horsepower constantly available, valued at \$9,718,270 annually, a free gift of nature to the community. Only a small portion of this resource was developed, but it was seen as a sure guarantee of future growth.

However, it was the commercial revolution, rather than the industrial revolution, which was buffeting Rochester ahead during the first decade of the canal's operation. Only four or five of the 100-odd "manufactories" listed in the first *Directory* employed more than a half-dozen workers, and apparently less than half of them found use for the motive power of the falls. Most of the 423 laborers listed in 1827 were outdoor workmen common in any community, and the leading industries—the flour and lumber mills—apparently gave direct employment to less than 100 men.

The proportion of workmen increased rapidly during the next few years, and early efforts to form labor organizations were evident when the carpenters asked for a ten-hour day in 1833. Nevertheless, labor from sun to sun remained the standard, and only the skilled artisan or responsible clerk could expect more than the standard wage of "another day, another dollar." Domestic employment paid \$5 to \$7 a month, and great numbers of young men still served as apprentices, frequently boarding with their masters and receiving small monthly allowances. The presumption was that a few years of employment would see the individual equipped to set up shop for himself, either in Rochester or in a smaller community further west. Nearly 80% of

those listed as boarders in the 1827 *Directory* did move on before 1834, though the flood of newcomers from the East more than filled their places.

The bustling throng of merchants and westward migrants who entered Rochester by stage or canal provided a lively trade for a dozen taverns. Five stage lines and four packets made regular stops each day in the early thirties. One traveler in 1824 could not find an empty bed in any of the five leading hotels, each accommodating upwards of seventy guests, but it was not until the end of the decade that the newly erected Eagle Hotel at the Four Corners and the Rochester House on Exchange Street overlooking the canal provided Rochester with the most sumptuous accommodations west of Albany. The erection of the Reynolds Arcade and the Globe Building in the same years supplied the town with an air of commercial elegance and stability. When in 1834 Rochester assumed the status of a city it had already outdistanced all western rivals in size and activity, save only Pittsburgh and Cincinnati, several years its senior.

The Flour City: 1834-1854

It was in the late thirties that Rochester established its reputation as the Flour City. The excellent wheat of the rich Genesee lands and the skillful application of the newest milling devices won a high reputation for Rochester flour. The construction of two large mills, described as the largest in the world, and the operation of a score of smaller mills enabled the city to turn out upwards of 500,000 barrels annually during the period. Even Baltimore, where the product of the mills of Maryland and parts of Pennsylvania were marketed, did not produce as much flour within the city limits as Rochester, and the quality of southern flour could not equal that of the Genesee millers. Baltimore nevertheless remained the dominant flour market until 1837 when a serious crop failure in the South helped to precipitate the nation-wide depression of that year. Rochester millers profited from the resulting high prices, although heavy losses were suffered when an over-investment in Genesee and western wheat was followed by a sudden drop in flour prices. Nevertheless the fame of Rochester flour was securely established by the forties, and even the hardships of the protracted depression could not tarnish its reputation.

The depression did, however, emphasize some serious flaws in Rochester's situation. The sharp fluctuations in the wheat and flour prices rendered the city's leading industry extremely hazardous. Handsome fortunes were made and lost in quick succession, and by the mid-forties the courage of the early millers had been so seriously chastened that the community had to await the emergence of new leaders before it could go forward again. Despite the relative stability of local banks, as compared with those of Buffalo and many other cities, credit for new ventures was scarce, and the general contraction of the currency caused a resort to due-bills and other devices burdensome to the poor. The ambitious programs of street paving and other municipal improvements, launched during the late thirties, were halted in the early forties by a determined economy drive, with resultant unemployment for many. Fortunately the timely construction of the first railroads and the emergence of new industrial possibilities and new leadership produced an encouraging revival in the late forties.

Efforts to improve Rochester's commercial facilities began to take hold in the late thirties. The first steam railroad, known as the Tonawanda Railway, was opened from Rochester to Batavia, thirty-three miles southwest, in 1837. The second line, connecting Rochester with Canandaigua, Geneva and Auburn, delayed by disputes over its route, was completed a few years later. Meanwhile the work on the Genesee Valley Canal, designed to connect Rochester with Olean and thus tap the Allegheny and Ohio Valley trade, was slowly progressing southward. Repeated demands for the enlargement of Clinton's Big Ditch and for a new aqueduct over the Genesee prompted the state to undertake the latter project, and its construction provided relief to the city's unemployed during the lean years. When the economy forces captured the legislature in 1842, halting many state projects, the aqueduct had fortunately been completed and the Genesee Valley Canal opened to Mt. Morris, safeguarding the Flour City from a threatened commercial stagnation.

Rochester's facilities could not, however, compare with those of Buffalo and other western lake ports, or with those accessible to the expanding steamboat lines on the Mississippi and its tributaries. The railroads were primarily interested during their first decades in passenger traffic, and while the number of travelers through Rochester increased during the forties from 50,000 to 150,000 a year, the com-

mercial gain was less remarkable. The combined effect of the legislature's hesitant grant of banking powers and the increasingly conservative attitude of Rochester capital left the city inadequately supplied with banking credit throughout the period. Five weak banks with a total capital of \$1,160,000 in 1849 placed the city 26th in rank as a banking center when its population entitled it to stand 17th. By the mid-century a half-dozen western cities had outstripped the Flour City in commercial and population growth.

Death or the lure of commercial prospects in other cities removed most of Rochester's early leaders by the mid-century. Many younger members of the old families, like Colonel Rochester's grandson, Nathaniel, 3rd, joined in the gold rush to California, and the way was cleared for new blood and fresh enterprise in the Genesee mill town.

A concerted campaign was started in the late forties for the establishment of new industries in Rochester. The advantages of its water power were widely advertised, though doubts were beginning to develop concerning its adequacy. Indeed, most of the new industries owed little to that natural resource. A dozen small factories and machine shops turned out edge tools, stoves and other household fixtures, carriages, steam engines, threshers, separators, and varied other farming implements in increasing number. A Board of Trade was created to encourage the expansion of these enterprises and to sponsor the introduction of cotton and other textile factories. Some success was achieved in this direction, notably by a half-dozen small woolen mills, supported by the increased output of the expanding sheep herds of the Genesee Valley.

But more remarkable developments were made in three other lines. A few enterprising shoemakers and master tailors developed large-scale production by the employ of numerous fellow-craftsmen, who worked in their homes or in boarding houses, later described as sweatshops. The specialization of tasks, the introduction of standard patterns and sizes, and the marketing of their products as ready-made articles available for the immediate use of the growing flood of impatient travelers thronging the city marked the development of the important shoe and clothing industries of Rochester. The increasing number of poor but frequently skilled immigrants, who were settling at Rochester in these years, contributed to the growth of these and other special industries.

Possibly the most noteworthy was the nursery business which took root in the city's outskirts during the forties. Several English and local nurserymen contributed to the development, but the most outstanding in the field were the partners, George Ellwanger from Germany and Patrick Barry from Ireland. Their Mt. Hope Nurseries, established in 1840, had become the largest in the nation by the mid-fifties, and the reputation of their products, sold far and wide throughout the expanding West, joined with the verdant loveliness that encircled the city by the mid-century to win Rochester the title of Flower City—just as St. Louis, riding high on the swelling tide of western wheat, was emerging as the preeminent flour milling center.

The Flower City: 1854-1890

Though few realized it, the triumphant days of the water power city had passed before the close of the fifties. The demands of the Erie and Genesee Valley Canals frequently depleted the resources of the river during dry seasons when the millers needed all the water they could get, and neither canal answered Rochester's desire for a cheap coal artery. The city began to rely increasingly on its railroads, which were greatly improved and extended during the period, and more attention was given to those industries less dependent upon motive power than on skilled labor.

Rochester was in effect turning its back on the water resources that had been the pride and glory of its first half-century. The stone mills and other water-driven establishments that continued, were now crowded so closely around the upper gorge that it was almost impossible for a visitor to see the main falls. Finally the Genesee, Rochester's earliest benefactor, surging over its banks with angry fury in 1865, as though piqued by its fading honor in the changing city, flooded a considerable part of the old 100-acre tract and the adjoining mill seats. Rochester likewise was to have her spite before the end of the period when two rows of store buildings were extended over the river, blotting the last glimpse of the Genesee from the preoccupied throngs on Main Street.

Rochester's fourth economic era was ushered in by a new revolution in transportation. The succession of railroad links that paralleled the canal between Albany and Buffalo had started to co-operate during

the forties, but it was not until 1853 that they were consolidated under one management, double-tracked throughout, and renamed the New York Central. The move had been opposed in Rochester as a dangerous step towards a monopoly which would relegate the city to the status of a way station. But the efficiency and increased traffic that resulted soon proved of great value, while the construction at this time of new lines to Lockport and Lewiston, to Palmyra and Syracuse, to the port of Charlotte, and to Avon, where a connection was made with the Erie Railroad, converted Rochester into the most important railroad center in Western New York.

The expanding monopoly of the New York Central was gradually extended over several of these lines, but the continuing competition of the canal averted the danger of exorbitant freight rates. Indeed the city, alert to its interest in this respect, was the most zealous advocate of reduced canal tolls, securing their total abolishment in 1883, and led the long fight for the canal's enlargement, finally achieved in 1861. The city's position as a railroad center was greatly enhanced by the completion of the bridge over the Niagara at Lewiston in 1855, which permitted the Central to route its Chicago trains north of Lake Erie, while its Buffalo, Cleveland, and southwestern traffic was sent over the old Tonawanda route. Rochester thus became the distributing center for trains from the East, and its freight yards were for a time among the busiest in the nation. The hazards of outside monopoly control were, nevertheless, emphasized in the mid-seventies when the large engine works at Rochester were suddenly removed, depriving the city of a major industry.

Monopoly controls over the passenger rates were held in check by the improved steamboats on the lake and by the potential threat of the Erie Railway. But the latter failed to secure a firm hold on its Avon connection, while the Lake Ontario International Steamboat Company of 1855 and its varied successors tended to neglect the Rochester port. Indeed Rochester's lake shipments failed to acquire major proportions until the solution of the city's long struggle for a direct connection with the coal fields of Pennsylvania supplied a heavy freight export. The Genesee Valley Canal, although completed to Olean in 1861, did not fill this expected function, and the construction of the State Line Railway, for which the municipality paid most generously, was halted at Salamanca in 1878, and was not extended

into Pittsburgh under a new name and management until the early eighties.

When the coal trains did finally steam into Rochester in sufficient numbers, much of the coal was taken to Charlotte and ferried across the lake. Rochester's industries had long before this date followed a different direction, and the city was never to become a heavy industrial coal burner, comparable to most cities of its class.

The millers of Rochester were eclipsed during the fifties by those of St. Louis and finally, near the close of the period, by Minneapolis, the new Flour City at the falls of the Mississippi. The use of steel rollers in place of the old millstones produced a better grade of flour from western spring wheat than Rochester could make from the winter wheat of the Genesee. Meanwhile the disasters of the mid-fifties, when long wet seasons practically destroyed the entire crop, had joined with the weevil, smut, and other plagues to harass the Genesee grain farmers, many of whom turned to fruit and cattle. Rochester millers imported western wheat and introduced steel rollers and other improvements, but discrimination in freight rates favored the western millers. The local output increased occasionally during favorable years, and the improved machinery of the eighteen remaining mills of the early eighties could easily turn out a larger product than the twenty-four mills of the forties, but Rochester no longer rivaled the capacity of Minneapolis.

The two second-line industries of the fifties, clothing and shoes, had been greatly stimulated by the Civil War's demand for ready-made supplies. The first application of the sewing machine to shoes in Rochester (possibly in the world) had occurred in 1852. Growth and specialization continued with the development of dies to cut the leather and other machines, and the shoe factories turned to women's and children's shoes after the war. By the early eighties some firms, employing a total of 5,000 workers and \$2,500,000 capital were turning out a product valued at \$6,500,000 annually. Meanwhile the clothing factories, likewise introducing the sewing machine, were developing a name for quality in men's suits. The sweatshops of the sub-contractors, where perhaps twenty-or-so recent immigrants of all ages labored in crowded houses, characterized this industry, but a few large concerns, employing several hundred hands in four-and-five-story factory buildings were established during this period on St. Paul and

Andrews Streets. Such firm names as Adler Brothers and Company, Stein, Bloch and Company, Koch and Company, appeared, and the proportions of the clothing industry, both in capital investments, number of employees and value of output, assumed first place in the city. By the eighties Rochester stood fourth among the clothing manufacturing cities of America and third among those making shoes.

Several other industries continued from earlier years, notably the iron foundries and tool shops, many of which now became stable concerns. A variety of patented machines were produced, such as the Gordon Grain Binder, the Howe Scales, the Cunningham Carriages, and the Gleason Gears. Not to be forgotten was the \$100,000 common pin factory. The eighties witnessed a remarkable industrial expansion in Rochester as the number of establishments increased from 734 to 1,892 during the decade while the total net value of the city's industrial products mounted from \$10,003,751 to \$31,770,758.

A new industry which had attracted much Rochester capital at the mid-century was the expanding telegraph system. After the first rush to extend the lines over all possible routes, a struggle for consolidation and monopoly ensued, and Rochester capital, led by the vigorous Hiram Sibley, succeeded during the fifties in gathering many strategic lines into the Western Union network. The war greatly enhanced the value and stimulated the use of the new instrument. A crisis in the company's affairs in 1865 forced out many Rochesterians, but Sibley strengthened his hold, and those that remained reaped rich profits especially during the next decade before control passed largely into New York hands. Much local capital had been attracted out of the city during the early years of the telegraph, but remarkable profits returned to strengthen the community's other financial institutions. The five banks of the mid-century doubled in number by the mid-eighties when their control was extended pretty widely over the financial affairs of the Genesee Country.

The Flower City reached the zenith of its glory during these decades. Several of the nurserymen were laying out attractive subdivisions amid their older planting, especially in those areas annexed by the city in 1874 when its acreage was doubled. But they were at the same time extending their plantations on the outskirts, where rows of young fruit and ornamental trees, fields of waving and climbing blossoms of all colors, and communities of glass houses fringed the

city. Shipments from local nurserymen, notably Ellwanger and Barry, became so large that special facilities were provided in Brighton by the New York Central in order to relieve the regular freight office in the city. Shipments went forth into all parts of the nation and to many foreign countries, stocking distant nurseries which by the nineties were to take over much of the business of their Mount Hope parent. But meanwhile the fruit orchards of Western New York were supplied with new plantings, and the foundations of a great fruit industry were securely laid. Large exports of fresh fruit began to flow out of Rochester, while a canning and preserving industry took root in the city. It was not by chance that Curtice Street, named for Rochester's Blue Lable Ketchup manufacturer, dates from the end of the period.

Many of Rochester's great industries of the next half-century were already modestly established. Bausch and Lomb had made their start in the late fifties and had struggled along in a small way until the development of a hard-rubber rim and a power grinder in the late sixties enabled them to erect a small factory on St. Paul Street where their great plant stands today. Neither Taylors' instrument works nor George Eastman's factory amounted to much as yet, but like other struggling enterprises they were looking to the future. The inventors itch had invaded hundred of tool shops, and many a poor mother had to take in boarders in order to eke out the family's existence while the breadwinner fooled around with batteries, vats of crude Pennsylvania oil, and curious contraptions of all sorts. The technological age was already dawning, and Rochester was to see its first telephone, its first electric lamps, and its first gasoline engine before the end of the seventies.

Of far greater significance to the Rochesterians of the period were the changes in the relations of labor, capital, and production. Despite the industrial development of the water power city before the mid-century, the employee had still been, in a physical if not a financial sense, a close associate of the owner—generally the master craftsman—of the mill or shop and could reasonably hope to stand in his shoes some day. But with the application of machinery in the clothing, shoe, and other industries; with the increasing specialization of tasks and the expanding output for distant markets; and with the discovery that the new factory processes freed the owner from dependence on the

patiently trained artisans of the past, the workman of the mid-decades began to take a new attitude towards his job. The job was no longer a temporary apprenticeship, and it became desirable to make it as congenial and as fruitful as possible. The feeble efforts at labor organization, the demands for a ten-hour day, and other reforms of the earlier period reappeared with increasing insistency, and Rochester emerged as one of the focal points in the labor movement during the years following the Civil War.

The new development began in the early fifties. The blacksmiths and other metal workers took the initiative in 1853, and the printers, the seamstresses, the tailors, the bricklayers, the carpenters, and finally the cigar makers soon followed. Organization was achieved by several of these groups, but their strikes for increased wages were seldom successful. The depression of 1857 and the first years of the Civil War were not favorable to union action, but renewed activity occurred in 1863 when five unions joined to form the first city trades assembly. Before the end of the year three additional unions had been organized, one in the expanding shoe factories where others were soon formed. Occasional strikes again met with varied success, but the growing strength of the labor organizations in Rochester was indicated by the frequent visits of national conventions, and by the fact that the ten-hour demands of the fifties had given way to petitions for "eight hours for labor, eight hours for sleep, eight hours for mental improvement and recreation."

Much of the energy evident in trade unionism during the mid-sixties was diverted into political agitation by the end of the decade. The most dramatic local success of the latter trend was achieved when the second national Industrial Congress met in Rochester in 1874. The legislative program endorsed at this gathering favored the restriction of Chinese immigration, the regulation of child labor, the abolition of contract labor in prisons, the establishment of co-operatives, the development of machinery for arbitration in labor disputes, the extension of safety regulations, and the adoption of the eight-hour day. Some approval was won in the local press for several of these proposals, but disputes within labor ranks over the proper emphasis apparently contributed to the early dissolution of the Rochester Central Trades' Assembly, although the depression of the mid-seventies was no doubt chiefly responsible.

Local cigar makers, machinists, and hackmen established stable unions during the seventies, and several benevolent associations were formed, while a half-dozen of the older unions continued active. Occasional strikes for wage advances in the early seventies were followed by defensive strikes during the lean years after the panic of 1873. Drastic wage reductions were nevertheless enforced, and several of the unions succumbed before the end of the decade. The most protracted struggles occurred in the shoe and metal industries, in both of which outside strike breakers were imported by several firms. The far-flung railroad strikes of 1877 tied up area traffic, but Rochester escaped the violence that marked the conflict in other cities—a fortunate result, as one editor noted, of the removal of the car shops from the city some time before.

The early eighties witnessed a revival of labor organization in Rochester as elsewhere. Local assemblies of the Knights of Labor, and several old and new trade unions gained strength, and the former staged the first Rochester Labor Day parade in 1882 and struggled to perfect a local political organization. Several of the local trade unions co-operated through their national officers in the organization of the American Federation of Labor in 1884.

The struggle of workingmen in Rochester to achieve strength through organization was of course a response in a measure to the more successful organization of capital. The shift from private to corporate ownership in local industry had started at an early date and had become widespread after the mid-century. The effort of business leaders to organize a Board of Trade in the late forties, in 1854-55, and 1867, and again in 1872, while not directed in either of these instances specifically at the labor problem, represented an attempt, similar to that of the Trades' Assembly, to gain the co-operation of members of an important economic group in the advance of mutual interests. The Trades' Assembly lasted longer than any of these business associations, but the permanent organization of the Chamber of Commerce in 1887 antedated by one year the formation of the Central Trade and Labor Council. Both were destined to play an active role in the development of the complex industrial city of the next half-century.

The City of Many Industries: 1890-1940

Rochester finally emerged as a modern industrial city during the late eighties, and for fifty years its economic development has served to elaborate that pattern. The special advantages of earlier days were now more strikingly present at many of Rochester's rivals. The Genesee's hydraulic power was insignificant when compared with the cheap steam power available at such coal burning cities as Pittsburgh, Cleveland and Chicago; the canal appeared little better than a ditch when contrasted with the facilities of the upper Great Lakes or the Mississippi and Ohio Rivers; the wheat fields of the Genesee and the horticulture which succeeded could not hope to compete with the expansive facilities of the West once these cultures had invaded the great plains.

The glory of the Flower City faded in the nineties, like that of the Flour City four decades before. But the enterprise, the technical and labor skills and inventive genius of its residents enabled Rochester to forge ahead with remarkable strides. Its population, which had trebled during the four decades of the Flower City (as it had during the fifteen years of the Flour City), trebled again during the half-century of the City of Many Industries, until a population of some 410,000 has been reached in the industrial or metropolitan area, with 324,694 resident within the city limits in 1940.

But the modern city has differed from its predecessors in more respects than in the variety of its products. The enterprise of its industrialists was nurtured by a strong and expansive capital which operated as the years advanced to reduce the number of competing factories and speed the development of large corporations. The division between capital and labor became more clear cut, and the struggle of the latter forces for organization, recognition, and a larger share of the industrial product became more widespread and effective. The growing power of local unions was matched by the development of associations among the industrialists, and bitter conflicts frequently resulted. But the remarkable development of new and highly technical industries, whose skilled employees usually enjoyed higher wage standards than those of most organized unions, limited the field of union activity in the city, and Rochester has remained traditionally an open shop town, with several notable exceptions.

Rochester's transport facilities have reached a high point of efficiency during the last fifty years. Railroad lines and newly improved modern highways branched out in every direction. The city no longer enjoyed the strategic advantage of a terminal port or point of transshipment, and the reconstruction of the Erie as the Barge Canal in 1918 failed to revive the bustling canal trade of the past. But these varied transport facilities did connect Rochester with a nation-wide and in some instances a world-wide market. Full advantage of this situation was taken by the enterprising sales departments of the highly technical industries which have gained a dominant position in the modern city.

The rich resources of the Genesee hinterland have not been neglected. The total output of local nurseries was maintained for many years, though it did not keep pace with developments in Illinois and California. Recently other counties in Western New York have surpassed Monroe in this respect. In like fashion the flour mills, though decreased in number, maintained the output of earlier days until the rising prominence of Buffalo as the new Flour City of the post-World War period deprived Rochester mills even of the local market. However, the city became an important center for meat packing, fruit and vegetable canning, apple and other fruit shipments. Indeed its combined food industries are exceeded only by the clothing and photographic industries in value added to the products or in the number of workmen employed. Most of these varied food industries find their principal market in the local area, but the canning factories and fresh fruit shippers are notable exceptions.

The two major industries of the mid-decades, clothing and shoes, retained their dominant position well into the twentieth century. But in recent decades the output of the shoe industry has dropped appreciably. Labor difficulties, aggravated by union rivalries and by the refusal of many firms to recognize and deal with the organizations, prompted one-half of the sixty-four shoe factories of 1898 to remove during the next three decades to non-union areas. The great strike of 1922, although a technical victory for the firms, dealt the industry a blow from which it has never recovered. The number of factories continued to decline, due either to consolidation or removal, yet the product of the fifteen remaining firms of 1937 was valued at \$8,354,-365, and 2,660 workmen received a total of \$2,461,654 in wages.

The Rochester shoe factories have specialized in women's shoes and footwear for babies, and while the city has fallen in relative output, shoes still rank fifth among the many industries of Rochester.

The clothing industry maintained its pre-eminent position until the turn of the century. Recurrent labor difficulties, market problems, and other crises have generally been met by constructive solutions. Many of the unhealthy sweatshops in which the major portion of the work was performed during the mid-decades were abandoned with the development of factories in the clothing district along North St. Paul Street in the eighties and nineties. A gradual process of consolidation eliminated many of the smaller firms, and early in the present century a few of the larger companies started the movement out from the congested central district into fine modern factory buildings on airy grounds near the city's outskirts.

The outbreak of a series of strikes early in the century resulted in a prolonged period of strife, but when the clothing industry finally recognized the unions in 1919 and delegated increasing responsibilities to them, a period of peaceful growth ensued. Energetic marketing policies, progressive stylists, and an abundance of skilled labor provided by the populous immigrant groups of the city, all contributed to the growth of the industry. Its Rochester employees numbered 8,500 in 1937, earning a total of \$9,637,237—the second largest industrial labor force in the city. The total product was valued roughly at \$29,000,000. The reviving prosperity of 1940 has added another 1,200 workers to the rolls of the clothing industry.

As in the previous case of the flour mills the clothing industry nurtured a group of accessory trades. Thus a button factory established in Rochester during the late eighties not only grew rapidly in size but attracted another company, and by 1920 the two concerns employed a total of 3,000 workmen, turning out a product valued at nearly \$2,000,000 a year. The activity declined rapidly during the next two decades, but 1940 still finds 600 employed in button factories in Rochester.

Both the Rochester brewery and tobacco industries experienced numerous vicissitudes. The strong German element in Rochester not only provided the skill for excellent malt houses but a ready market as well, while large underground vaults in the limestone banks of the river provided ideal facilities for fermentation. By 1889 three local

breweries had gained such proportions that an outside syndicate paid \$4,500,000 for their control, prompting several of the dozen smaller companies to combine in order to escape extinction. The succeeding years produced many changes, and the forces of temperance cut the output from 320,000 barrels in 1889 to 65,000 barrels in 1914 and to zero in 1920; but the repeal of prohibition brought the industry to life again in Rochester. Today four breweries employ 460 persons and turn out an average of 900,000 barrels annually. The Kimball Tobacco Company, on the other hand, succumbed to the tobacco trust in 1895, and Rochester's cigarette-producing days soon came to an end. Cigar-makers continued active until the perfection of machinery during the present century has reduced the number of these craftsmen to a very low figure by 1940.

The wood-working industries retained their importance but only by a radical transformation of product. One of the carriage factories of the mid-decades became an automobile factory for a time and then a producer of airplane parts. But the furniture factories continued active, numbering twenty-two in 1937, when nearly 1,000 were employed and products valued at \$3,500,000 produced. Wooden boxes were already replacing the barrels of the Flour City during the mid-years, and in the modern period the paper-box factories of Rochester have developed into the status of a major industry, employing more than 1,000 workers in 1937. Only a half-dozen coopers were still employed in the city.

A group of highly technical industries, producing a variety of metal or glass instruments and machines, gained a prominent place in the city. The Taylor Instrument Company, dating from the early fifties, employs 1,062 on the manufacture of thermometers and other instruments in 1940; the Gleason Works, started in 1876, employs 1,336 chiefly in the manufacture of gear wheels; the Ritter Dental Manufacturing Company, dating back to 1889, employs 513 in the manufacture of dental chairs and equipment; the Todd Company, dating from 1899, employs 591 in the production of check protectographs and other devices; the Pfaudler Company located in Rochester since 1903 employs 211 persons chiefly in the manufacture of glass-lined tanks; Yawman and Erbe, dating from 1880, employs 687 in the production of metal office files and other furniture. Recently a General Motors subsidiary has located in Rochester and employs 1,613

in the production of auto parts; another General Motors division employs 1,489 in the production of the Delco appliances; while the General Railway Signal Company and the Stromberg Carlson Telephone Manufacturing Company, dating from 1902, employ 890 and 713 respectively in the production of electrical apparatus.

But the two most far-famed industries of modern Rochester are no doubt the producers of optical and photographic materials. The dominating position in the optical field, established by Bausch and Lomb during the mid-decades, was widely recognized by the turn of the century. The factory on St. Paul Street was steadily expanded as telescopes, microscopes, binoculars and lenses for varied commercial and military instruments were added to the growing selection of ophthalmic lenses and frames. The company, which soon became the largest of its kind in the world, expanded its personnel until some 3,500 are employed. Several smaller competitors have developed in the city, increasing the total employment in the industry to over 5,000.

The prosperity enjoyed by the Eastman Kodak Company forty and fifty years ago when the Kodak was gaining its first wide popularity was moderate when contrasted to the rapid expansion that followed the development of the cinema in recent decades. The manufacture of film has become a major task of the company and a great plant was erected at Kodak Park where approximately 10,000 are now employed. Three other large Eastman factories, located in the city, together with four independent companies, raise the total number of employees in the photographic industry to more than 20,000, the largest labor force in Rochester.

An increasing number of public and semi-public enterprises have appeared during the city's last half-century adding a new field for employment. The city itself has increased its full time employees many fold until they number around 6,700 in the several departments today. The Rochester Gas and Electric Company gives employment to 2,122, the Rochester Transit Corporation employs approximately 1,000, the Rochester Telephone Corporation 1,525, and the University, likewise semi-public in character, provides employment to a professional and non-professional staff of about 1,500. Numerous institutions, both public and private in character, join with retail enterprises to boost the total number gainfully employed in Rochester to approximately 130,000.

The size of the weekly pay envelope is still a major concern of working men and women. Strong labor organizations were achieved in many Rochester industries before the turn of the century, and while varied attempts to organize the newer technical industries have generally proved unsuccessful, an active Central Trades and Labor Council has carried on through the years, providing leadership to a host of small unions which number 88 today and enroll a total of 40,000 members. The sturdy growth and astute leadership of the Amalgamated Clothing Workers was possibly the outstanding labor development in Rochester during the post-war years, and more recently its approximately 13,000 members have formed the nucleus for the local C. I. O. groups.

Several Rochester industries were among the first in the country to provide extensive employee welfare programs. Factory lunch rooms, medical clinics, recreational facilities, and employee dividends were some of the devices so extensively applied that the city gained a national reputation for its activity in this field during the balmy twenties.

Rochester suffered along with the rest of the country during the dark years following the panic of 1929. Local industries were somewhat fortunate in that the demand for clothing and the cinema remained strong, and other industries escaped many of the hardships of less favored areas. But the local depression, though slower in its approach, was perhaps more drawn out, and the city's industrial activity did not show the revival evident in other cities of its class during the mid-thirties. Recovery has, nevertheless, been fully achieved in most local industries, for despite the withdrawal of some enterprises, the city's industrial product for 1940 exceeded that of any previous year since the halcyon days of 1920.

There is however a feeling that Rochester has reached the limit of its industrial and population growth. Local leaders are giving much thought to the stabilization of the city's fiscal and economic activity. There has been a protracted pause in the never-ceasing task of internal maintenance and improvement, and external expansion has been checked. But whether Rochester has really grown to its full stature, or is simply marking time, as during the 1850's and again in the 1870's, waiting for the emergence of new leaders and the development of new industries, is not for the historian to say.

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